

PowerTech™ PSL 4045HFG06 Diesel Engine

Generator Drive Engine Specifications



JOHN DEERE

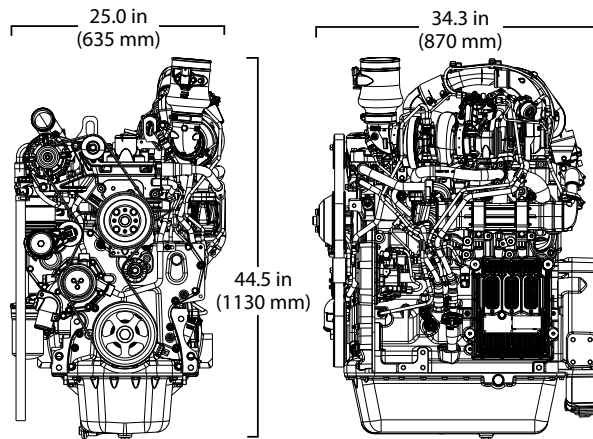


4045HFC09 shown

Certifications

This model will fully meet EPA Final Tier 4 and CARB emission regulations.

Engine dimensions



Dimensions may vary according to options selected. Call your distributor for more information.

General data

Model	4045HFG06	Length – mm (in) to rear of block	870 (34.3)
Number of cylinders	4	Width – mm (in)	635 (25.0)
Displacement – L (cu in)	4.5 (275)	Height – mm (in)	1130 (44.5)
Bore and Stroke – mm (in)	106 x 127 (4.2 x 5.0)	Weight, dry – kg (lb)	570 (1257)
Engine Type	In-line, 4-cycle		
Aspiration	Turbocharged and air-to-air aftercooled		

Performance data range

Rated speed	Engine power				Generator efficiency	Rated fan power		Power factor	Calculated generator set output			
	Prime		Standby						Prime		Standby	
Hz (rpm)	kW	hp	kW	hp	%	kW	hp		kWe*	kVA	kWe	kVA
60 (1800)	117	157	128	172	90	7.7	10.3	0.8	98	123	108	135
50 (1500)**	102	137	112	150	90	6.2	8.3	0.8	86	108	95	119

Prime power is the nominal power an engine is capable of delivering with a variable load for an unlimited number of hours per year when applied in conformance with ISO 8528-1. This rating conforms to ISO3046 and SAE J1995.

Standby power is the maximum engine power available at varying load factors for up to 200 hours per year when applied in conformance with ISO 8528-1. This rating conforms to ISO 3046 and SAE J1995. The calculated generator set rating range for standby applications is based on minimum engine power (nominal -5 percent) to provide 100 percent meet-or-exceed performance for assembled standby generator sets.

*Electrical power is calculated from the typical generator efficiency and fan power percentages shown. Applications may vary.

**Performance information for 1500 rpm is preliminary data and is subject to change without notice.

DOC catalyst dimensions

Size	3
Diameter – mm (in)	246.6 (9.71)
Length – mm (in)	425.9 (16.77)
Weight – kg (lb)	19.92 (44)

SCR catalyst dimensions

Size	3
Diameter – mm (in)	322.58 (12.7)
Length – mm (in)	673.1 (26.5)
Weight – kg (lb)	34.02 (75)

See your John Deere Power Systems engine distributor for more information on available filter size options.

Features and benefits

DOC/SCR aftertreatment

- These engines use diesel oxidation catalyst (DOC) and selective catalytic reduction (SCR) technology to meet Final Tier 4 emission regulations. They meet customer performance without the need for a diesel particulate filter (DPF).

Big-engine durability

- Heavy-duty components that are usually found in our larger engines are used throughout our generator drive engine line. Many of our DOC/SCR engines feature top-liner cooling, steel pistons, and variable-speed fan drives.

Series turbochargers

- Fresh air is first drawn into the low-pressure turbocharger (fixed geometry) and compressed to a higher pressure. The compressed air is then drawn into the high-pressure turbocharger, where the air is further compressed. The high-pressure air is then routed through a charge air cooler and into the engine's intake manifold. By splitting the work between two turbochargers, both can operate at peak efficiency and at slower rotating speeds — lowering stress on turbocharger components and improving reliability. Series turbocharging delivers more boost pressure than single turbocharger configurations which results in higher power density, improved low-speed torque, and improved high altitude operation.

Cooled exhaust gas recirculation (EGR)

- EGR cools and mixes measured amounts of cooled exhaust gas with incoming fresh air to lower peak combustion temperatures, thereby reducing NOx.

High-pressure common-rail (HPCR) and engine control unit (ECU)

- The HPCR fuel system provides variable common-rail pressure, multiple injections, and higher injection pressures up to 2,500 bar (36,000 psi). It also controls fuel injection timing and provides precise control for the start, duration, and end of injection.

4-valve cylinder head

- The 4-valve cylinder head provides excellent airflow resulting in greater low-speed torque and better transient response time by utilizing a cross-flow design.

Air-to-air aftercooled

- This is the most efficient method of cooling intake air to help reduce engine emissions while maintaining low-speed torque, transient response time, and peak torque. It enables an engine to meet emissions regulations with better fuel economy and the lowest installed costs.

Compact size

- Lower installed cost
- Mounting points are the same as previous engine models

John Deere electronic engine controls

- Enables low idle speed for reduced fuel consumption
- Enables switching between 1500 and 1800 RPM without reprogramming
- Single engine control unit (ECU) manages both the engine and the aftertreatment systems
- Premium software option integrates with equipment

Additional features

- Low idle speeds
- Dual frequency 1500/1800 rpm
- Glow plugs
- 500-hour oil change
- Self-adjusting poly-vee fan drive
- Optional factory installed variable speed fan drive improves fuel economy and reduces noise levels
- RH and LH engine mounted fuel filters
- Replaceable (wet) cylinder liners
- Low pressure fuel system with electrical transfer pump and “auto prime” feature